

VOLUME 117, NUMBER 1
(Published 28 November 2000)

CONTENTS

	v	Editorial Note
S. Yamamoto	1	Significance of the direct relaxation process in the low-energy spin dynamics of a one-dimensional ferrimagnet $\text{NiCu}(\text{C}_7\text{H}_6\text{N}_2\text{O}_6)(\text{H}_2\text{O})_3 \cdot 2\text{H}_2\text{O}$
H. Furuta, S. Endo, M. Tokunaga, Y. Tominaga and M. Kobayashi	7	Local distortion of PO_4 tetrahedra in the paraelectric phase in low temperature under high pressure in KH_2PO_4
T. Goto, N. Ohshima, G.A. Mousdis and G.C. Papavassiliou	13	Excitons in a single two-dimensional semiconductor crystal of $\text{H}_3\text{N}(\text{CH}_2)_6\text{NH}_3\text{PbI}_4$
Y. Kawaguchi	17	Luminescence spectra at bending fracture of single crystal MgO
K. Aoki	21	Anomalous brightening of photoluminescence spatial-pattern in $n\text{-GaAs}$ Corbino disks under a pulsed electric field
P. Padhan, N.K. Pandey, S. Srivastava, R.K. Rakshit, V.N. Kulkarni and R.C. Budhani	27	Transition from a double exchange ferromagnetic metal to hysteretic insulator mimicking charge ordering effects in ultra-thin epitaxial films of a perovskite manganite
S. Rekhi, S.K. Saxena, Z.D. Atlas and J. Hu	33	Effect of particle size on the compressibility of MgO
P.K. Kahol	37	Magnetic susceptibility and electron spin resonance investigations of polyaniline and polyaniline-poly(methyl methacrylate) blend
N.S. Maslova, A.I. Oreshkin, V.I. Panov and S.A. Magnitskii	41	Light-induced conformational transitions of individual molecules in ordered films
R. Kerner and J.C. Phillips	47	Quantitative principles of silicate glass chemistry
X.L. Wang, P. Gehringer, W. Lang, J. Horvat, H.K. Liu and S.X. Dou	53	Effect of grain connectivity and density on the magnetoresistance in Ca or Li doped lanthanum manganites
K.P. Sinha	57	Photo-induced transition to additional symmetry broken state in cuprate superconductors
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 2
(Published 5 December 2000)

CONTENTS

E.-K. Tan, J. Osman and D.R. Tilley	59	Calculation of intrinsic hysteresis loops of ferroelectric thin films
O.H. Han, J.K. Jung, M.-Y. Yi, J.H. Kwak and Y.J. Shin	65	Sodium ion dynamics in the nonstoichiometric layer-type oxide $\text{Na}_{0.67}\text{Ni}_{0.33}\text{Ti}_{0.67}\text{O}_2$ studied by ^{23}Na NMR
M.F. Mostafa and S.S. Ata-Allah	69	Mössbauer and electric studies of phase transitions of a layered system
G. Gumbs and N.J.M. Horing	75	Effect of magnetic field on the coupling of 2D plasmons to nonlocal bulk plasmons

Vol. 117, Nos 1–12 Contents

M.V. Yablonskikh, V.I. Grebennikov, Yu.M. Yarmoshenko, E.Z. Kurmaev, S.M. Butorin, L.-C. Duda, C. Sáthe, T. Käämbre, M. Magnuson, J. Nordgren, S. Plogmann and M. Neumann	79	Magnetic circular dichroism in X-ray fluorescence of Heusler alloys at threshold excitation
H.S. Brandi, A. Latgé and L.E. Oliveira	83	Laser dressing effects in low-dimensional semiconductor systems
B. Davoudi and B. Tanatar	89	Plasmon dispersion and damping in double-layer electron systems
S. Hügle, R. Egger and H. Grabert	93	Static and dynamic image potential for tunneling into a Luttinger liquid
R.A. Serota	99	Van Vleck response of a two-level system and mesoscopic orbital magnetism of small metals
F. Boakye	103	Temperature dependence of resistivity of $\text{Mn}_{100-x}\text{Co}_x$ thin films
C. Wang and R. Wang	109	Theoretical studies on anisotropic electrical conductivity of <i>trans</i> -polyacetylene doped with n-type dopants
S.J. Kim, G. Demazeau, J.A. Alonso, A. Largeteau, J.M. Martinez-Lope, I. Presniakov and J.-H. Choy	113	The Ni(III) perovskites: synthesis under high oxygen pressures and physico-chemical properties
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 3

(Published 5 January 2001)

CONTENTS

Advancing Frontiers of Condensed Matter Science
A Special Issue of Solid State Communications

E. Burstein and A. Pinczuk	v	Preface — Advancing Frontiers of Condensed Matter Science
J.K. Jain, R.K. Kamilla, K. Park and V.W. Scarola	117	Interacting composite fermions
J.P. Eisenstein	123	Two-dimensional electrons in excited Landau levels: evidence for new collective states
C. Tejedor, B. Paredes, J.H. Oaknin and L. Martín-Moreno	133	Quantum dots in high magnetic fields: spin textures and Kondo effect
S. Das Sarma and E. Demler	141	Bilayer quantum Hall systems: spin–pseudospin symmetry breaking and quantum phase transitions
F.J. Himpsel, A. Kirakosian, J.N. Crain, J.-L. Lin and D.Y. Petrovykh	149	Self-assembly of one-dimensional nanostructures at silicon surfaces
S. Ushioda	159	Probing individual nanostructures with STM-induced light emission
O. Újsághy, G. Zaránd and A. Zawadowski	167	Kondo effect in mesoscopic systems
H. Ohno and F. Matsukura	179	A ferromagnetic III–V semiconductor: (Ga,Mn)As
E. Courtens, M. Foret, B. Hehlen and R. Vacher	187	The vibrational modes of glasses
M. Cardona and T. Ruf	201	Phonon self-energies in semiconductors: anharmonic and isotopic contributions
A.K. Ramdas and S. Rodriguez	213	Spin–orbit coupling, mass anisotropy, time-reversal symmetry, and spontaneous symmetry breaking in the spectroscopy of shallow centers in elemental semiconductors
	I	Instructions to Authors
	III	Keywords
	IV	

VOLUME 117, NUMBER 4
(Published 8 January 2001)

CONTENTS

A. Chowdhury, R. Österbacka, A.J. Pal and H. Stubb	223	Electric field redistribution on light-emitting devices based on Langmuir–Blodgett films of a porphyrin derivative
P.J. Klar, P.M.A. Vicente, S.G.M. Ebbinghaus and A. Reller	229	Cationic and anionic modifications of $\text{La}_{2-x}\text{Sr}_x\text{Cu}_{1-y}\text{Ru}_y\text{O}_{4-\delta}$ studied by Raman spectroscopy
F.J. Berry, J.F. Marco, S.J. Stewart and H.M. Widatallah	235	Lithium insertion in compounds of the type $\alpha\text{-Fe}_{2-x}\text{Ti}_x\text{O}_3$
L. Wang, Z. Ma, X. Huang, Z. Li, J. Li, Y. Bao, J. Xu, W. Li and K. Chen	239	The room-temperature visible photoluminescence from nano-crystalline Si in Si/SiN_x superlattices
K. Marumoto, T. Takeuchi, Y. Miyako, M. Ocio, P. Pari and J. Hammann	245	Fermi-liquid behavior of electrical resistivity in the dilute uranium system $\text{U}_x\text{La}_{1-x}\text{Ru}_2\text{Si}_2$
A. Endo and Y. Iye	249	Novel structures near $\nu = 9/2$ in short-period unidirectional lateral superlattices
N.Q. Liem, V.X. Quang, D.X. Thanh, J.I. Lee and D. Kim	255	Temperature dependence of biexciton luminescence in cubic ZnS single crystals
O.A. Shlyakhtin, Young-Jei Oh and Yu.D. Tretyakov	261	Enhanced low field magnetoresistance at room temperature in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{SrTiO}_3(\text{SrZrO}_3)$ composites
M.D. Martín, L. Viña, J.K. Son and E.E. Mendez	267	Spin dynamics of cavity polaritons
R.D. Somma and A.A. Aligia	273	Ferromagnetism in the XXZ chain with next-nearest-neighbor interactions
	I	Author Index
	V	Instructions to Authors
	VII	Keywords

VOLUME 117, NUMBER 5
(Published 9 January 2001)

CONTENTS

I. Loa, S. Gronemeyer, C. Thomsen and R.K. Kremer	279	Isotope effects in CuGeO_3 studied by Raman spectroscopy
T. Ikoma, S. Okada, H. Nakanishi, K. Akiyama and S. Tero-Kubota	285	ESEEM study on a stable paramagnetic center in polydiacetylene having a π -conjugated ladder structure
S.V. Korepov, A.A. Kovalev and M.A. Liberman	291	Transport properties of double quantum wires with correlated disorder
M.V. Eremin, S.I. Nikitin, S.Yu Prosvirnin, N.I. Silkin and R.V. Yusupov	297	Optical studies of $\text{Cr}^{3+}\text{-Cr}^{2+}$ pair center in KZnF_3 crystal
J.Y. Kim and T.W. Kim	303	Annealing effects on the two-dimensional electron gas in strained $\text{Si}/\text{Si}_{1-x}\text{Ge}_x$ modulation-doped single quantum wells
J.B. Khurgin	307	Excitonic radius in the cavity polariton in the regime of very strong coupling
R.A. Borzi, S.J. Stewart, G. Punte, R.C. Mercader, R.D. Zysler and M. Tovar	311	History-dependent magnetic properties in pure and Zn-doped cupric oxide

Vol. 117, Nos 1–12 Contents

H.-Y. Tian, W.-G. Luo, X.-H. Pu, P.-S. Qiu, X.-Y. He and A.-L. Ding	315	Synthesis and characteristics of strontium–barium titanate graded thin films at low temperature using a sol–gel technique
M.B. Tchoula Tchokonté, P.de V.du Plessis and A.M. Strydom	321	Electrical resistivity of the Kondo systems $(\text{Ce}_{1-x}\text{La}_x)\text{TSi}_3$ ($T =$ Rh, Ir)
M.C. Xu, H.J. Qian, F.Q. Liu, K. Ibrahim, W.Y. Lai and S.C. Wu	327	Ultrathin Pb film growth on Cu(111) studied by photoemission
S.K. Hoffmann, J. Goslar, W. Hilczer, R. Kaszyński and M.A. Augustyniak-Jabłokow	333	Electron spin relaxation of the Jahn–Teller $\text{Cu}(\text{H}_2\text{O})_6$ complex in $\text{Cs}_2\text{Zn}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ crystals
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 6
(Published 12 January 2001)

CONTENTS

V.M. Kaganer and K.H. Ploog	337	Strained islands as step bunches: shape and growth kinetics
T. Sanuki, K. Oto, S. Takaoka, K. Murase and K. Gamo	343	Transition between different types of breakdown of the quantum Hall effect by illumination, temperature change and the appli- cation of gate voltage
A. Ghosh and M. Sural	349	Transport mechanism in amorphous Bi_2CuO_4 : its temperature dependence
T.M. Schmidt, R.H. Miwa, A. Fazzio and R. Mota	353	Ab initio calculations on the compensation mechanisms in InP
L.F. Lemmens, D. Saeys, F. Brosens and J.T. Devreese	357	The polarization function of a finite number of confined spin polarized fermions
T. Hirata and F.S. Ohuchi	361	Temperature dependence of the Raman spectra of 1T-TaS ₂
M.Z. Xu, C.H. Tan and L.F. Mao	365	The double level calculation of oxygen related donor states in Si and SiO ₂
R. Szczesniak, M. Mierzejewski, J. Zielinski and P. Entel	369	Modification of the isotope effect by the van Hove singularity of electrons on a two-dimensional lattice
D. Kaczorowski, A. Czopnik, W. Suski, V.N. Nikiforov and A.V. Gribanov	373	Magnetic, electrical and thermodynamic properties of CePd_5Ge_3
A. Maignan, C. Martin, M. Hervieu and B. Raveau	377	Ferromagnetism and metallicity in the $\text{CaMn}_{1-x}\text{Ru}_x\text{O}_3$ perovs- kites: a highly inhomogeneous system
Z. Wang, J. Li, X. Huang, L. Wang, J. Xu and K. Chen	383	Patterned structures of silicon nanocrystals prepared by laser annealing
A. Kumar, D.K. Rai and S.B. Rai	387	Luminescence of Gd^{3+} ions doped in oxyfluoroborate glass
N.M. Gasanly, A. Aydinli, H. Özkan and C. Kocabas	393	Corrigendum to ‘‘Temperature dependence of the first-order Raman scattering in GaS layered crystal’’
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 7
(Published 22 January 2001)

CONTENTS

E. Dekel, D.V. Regelman, D. Gershoni, E. Ehrenfreund, W.V. Schoenfeld and P.M. Petroff	395	Radiative lifetimes of single excitons in semiconductor quantum dots — manifestation of the spatial coherence effect
G. Sęk, K. Ryczko, J. Misiewicz, M. Bayer, F. Klopff, J.P. Reithmaier and A. Forchel	401	Photoreflectance spectroscopy of vertically coupled InGaAs/GaAs double quantum dots
D. Embriaco and G.C. La Rocca	407	Vertical transport through laterally periodically modulated heterostructures
M. Matlak and M. Pietruszka	413	Comparative study of the specific heat and chemical potential at phase transitions
K. Murayama, Y. Hagiwara and H. Nakata	419	Anti-Stokes luminescence tail in porous Si
M. Ivanda, W. Kiefer and G. Mariotto	423	Raman light-to-vibration coupling coefficient of ν -SiO ₂ in spectral interval range up to 600 cm ⁻¹
R. Allub and C.R. Proetto	429	Kondo effect in a quantum dot with even number of electrons: zero-bandwidth approach
M. Sugisaki, H.-W. Ren, S.V. Nair, K. Nishi and Y. Masumoto	435	Many carrier effects in self-assembled InP quantum dots
V. Meregallo and M. Parrinello	441	An anomalous alloy: Y _x Si _{1-x}
T. Taliercio, M. Gallart, P. Lefebvre, A. Morel, B. Gil, J. Allègre, N. Grandjean, J. Massies, I. Grzegory and S. Porowski	445	Cw and time-resolved spectroscopy in homoepitaxial GaN films and GaN–GaAlN quantum wells grown by molecular beam epitaxy
A. Mizel and M.L. Cohen	449	Erratum to “Wannier function analysis of InP nanocrystals under pressure”
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 8
(Published 5 February 2001)

CONTENTS

M. Cini and G. Stefanucci	451	Exact ground state of the two-dimensional Hubbard model at half-filling for $U = 0^+$
O.E. Kvyatkovskii	455	Theory of isotope effect in displacive ferroelectrics
Y.X. Wang, W.L. Zhong, C.L. Wang and P.L. Zhang	461	First-principles study on the tendency to ferroelectricity of CaTiO ₃
Q.D. Zhuang, S.F. Yoon and H.Q. Zheng	465	Arsenic/phosphorus exchange and wavelength tuning of in situ annealed InAs/InP quantum dot superlattice
T. Zhu, C.H. Yan, Z.M. Wang, H.W. Zhao, J.R. Sun and B.G. Shen	471	Low-field magnetoresistance in La _{2/3} Sr _{1/3} MnO ₃ granular composites by a sol–gel coating process
J. Hernández-Torres, F. Aguilera-Granja and A. Vega	477	Magnetic moments in Ni clusters with deformations
T.J. Bastow and H.J. Whitfield	483	¹³⁷ Ba and ^{47,49} Ti NMR: electric field gradients in the non-cubic phases of BaTiO ₃
O.P. Martínez, F.C. Piñar and A.P. Barranco	489	Electrical properties of the ferroelectric bulk in europium-modified lead titanate ceramics

Vol. 117, Nos 1-12 Contents

M.S. Vasconcelos and E.L. Albuquerque	495	Localization of plasmon-polaritons in n-i-p-i quasi-periodic semiconductor superlattices
T.W. Kim, D.U. Lee, D.C. Choo, Y.S. Lim, H.S. Lee, J.Y. Lee and H. Lim	501	Coexisting phenomena of the CuPt-type and the Cu ₃ Au-type ordered structures near ZnTe/ZnSe heterointerfaces in Zn _x Cd _{1-x} Te/ZnS _y Se _{1-y} quantum wells
C.C. Lam and A. Vyas	505	The relationship between the pseudo-gap and the spin pairing dipolar superconducting gap in the Sn-doped Hg-1223 high temperature superconductors
	I	Author Index
	V	Instructions to Authors
	VII	Keywords

VOLUME 117, NUMBER 9

(Published 13 February 2001)

CONTENTS

C.B. Azzoni, M.C. Mozzati, P. Ghigna, L. Malavasi and G. Flor	511	Magnetic investigation of Mn ions in (Cd _{1-x} Mn _x)Mn ₂ O ₄ spinels
J. Dho, W.S. Kim, H.S. Choi, E.O. Chi and N.H. Hur	517	Macroscopic phase separation in layered manganite induced by a surface effect
Y. Park	523	Model of a diffuse domain wall
V.H. Tran, D. Kaczorowski, R. Troć, G. André, F. Bourée and V. Zaremba	527	Magnetic structure of the Kondo compound UCu ₅ In
Y. Yourdshahyan, B. Razaznejad and B.I. Lundqvist	531	Adiabatic potential-energy surface of O ₂ /Al(111): rare entrance-channel barriers but molecularly chemisorbed state apt for abstraction
O.D. Dubon, H.H. Silvestri, W. Walukiewicz and E.E. Haller	537	Hopping conduction through the 2s states of copper acceptors in uniaxially stressed germanium
Y. Park and K.M. Knowles	543	Dielectric dispersion at microwave frequencies in PbCo _{1/2} W _{1/2} O ₃ single crystals
R.L. Aggarwal, I. Melngailis, S. Verghese, R.J. Molnar, M.W. Geis and L.J. Mahoney	549	Temperature dependence of the breakdown voltage for reverse-biased GaN p-n-n ⁺ diodes
J.E. Lugo, J. Tagüeña-Martínez and J.A. del Río	555	Optical properties of charged inclusions
M. Polini, G. Sica and M.P. Tosi	561	Phonon scattering against point defects in the quantal 2D Wigner crystal
H. Tang, G.W. Qiao, J.P. Liu, D.J. Sellmyer, F.R. de Boer and K.H.J. Buschow	565	Spin-glass behavior in YCo _{10-x} Ni _x Si ₂ with high Ni content

I Instructions to Authors

III Keywords

VOLUME 117, NUMBER 10

(Published 20 February 2001)

CONTENTS

D.C. Look, C.E. Stutz, R.J. Molnar, K. Saarinen and Z. Liliental-Weber	571	Dislocation-independent mobility in lattice-mismatched epitaxy: application to GaN
--	-----	--

Vol. 117, Nos 1–12 Contents

Y.C. Pan, S.F. Wang, W.H. Lee, W.C. Lin, C.I. Chiang, H. Chang, H.H. Hsieh, J.M. Chen, D.S. Lin, M.C. Lee, W.K. Chen and W.H. Chen	577	Structure study of GaN:Mg films by X-ray absorption near-edge structure spectroscopy
M.P.J. Punkkinen, K. Kokko and I.J. Värynen	583	The electronic structure of K_2NiF_4 and K_2CoF_4 : beyond LSDA
M.O. Dzero	589	On the value of the Curie temperature in doped manganites
J. Wang, J. Zhao, F. Ding, W. Shen, H. Lee and G. Wang	593	Thermal properties of medium-sized Ge clusters
S. Stein, R. Schmitz and H. Kohlstedt	599	Magneto-tunneling injection device (MAGTID)
R.A. Serota	605	Permanent magnetic moment in mesoscopic metals with spin- orbit interaction
S. Sarkar, P. Raychaudhuri, A.K. Nigam and R. Pinto	609	Transport and magnetoresistive properties of an imperfect ferro- magnet–insulator–ferromagnet trilayer junction
L. Menon, D. Yu, P.F. Williams, S. Bandyopadhyay, Y. Liu and B. Jayaram	615	Enhanced transition temperature in a quantum confined high- T_c superconductor
J.M. Soler, I.L. Garzón and J.D. Joannopoulos	621	Structural patterns of unsupported gold clusters
T.M. Hayes, L.B. Lurio, J. Pant and P.D. Persans	627	Order in CdS nanoparticles in glass
	I	Instructions to Authors
	III	Keywords

VOLUME 117, NUMBER 11

(Published 6 March 2001)

CONTENTS

M. Iida and S. Katayama	631	Ultrafast dynamics of carrier–LO phonon system in high elec- tric field in polar semiconductors
Q. Wang, Q. Sun, J.-Z. Yu and Y. Kawazoe	635	Nonmetal–metal transition in Ba_n clusters
S. Gabáni, K. Flachbart, E. Konovalova, M. Orendáč, Y. Paderno, V. Pavlík and J. Šebek	641	Properties of the in-gap states in SmB_6
S. Majumdar and E.V. Sampathkumaran	645	Multiple magnetic transitions and anomalous magnetism in Tb_2CuGe_3
S.L. Tyan, Y.G. Lin, F.Y. Tsai, C.P. Lee, P.A. Shields and R.J. Nicholas	649	InGaAs/GaAs quantum wells and quantum dots on (111)B orientation
A. Matulis and F.M. Peeters	655	Wigner crystallization in the two electron quantum dot
S.L. Yuan, Z.Y. Li, G.Q. Zhang, F. Tu, X.Y. Zeng, Y.P. Yang and C.Q. Tang	661	Magnetic behavior in the Cu-doped samples of $La_{2/3}Ca_{1/3}$ - $Mn_{1-x}Cu_xO_3$ ($0 \leq x \leq 0.3$)
M. Pacheco, Z. Barticevic and J. Tutor	667	Stark optical transitions in bidimensional arrays of quantum dots
P. Misra, P. Bhattacharya, K. Mallik, S. Rajagopalan, L.M. Kukreja and K.C. Rustagi	673	Variation of bandgap with oxygen ambient pressure in $Mg_xZn_{1-x}O$ thin films grown by pulsed laser deposition
M. Sugisaki, H.-W. Ren, K. Nishi and Y. Masumoto	679	Photoluminescence and micro-imaging study of optically aniso- tropic InP self-assembled quantum dots
Q. Cai, M. Chandrasekhar, H.R. Chandrasekhar, U. Venkateswaran, S.H. Liou and R. Li	685	Temperature dependence of the Raman scattering in $HgBa_2$ - $CuO_{4+\delta}$
	I	Instructions to Authors
	III	Keywords

CONTENTS

H. Gollisch, T. Scheunemann and R. Feder	691	Mapping of the electronic structure of surfaces by low-energy (e,2e) spectroscopy
J.M. Auerhammer, T. Kim, M. Knupfer, M.S. Golden, J. Fink, N. Tagmatarchis and K. Prassides	697	Vibrational and electronic excitations of (C ₅₉ N) ₂
H. Wada, H. Gomi, A. Mitsuda and M. Shiga	703	Specific heat anomaly due to valence transition in Eu(Pd _{1-x} Pt _x) ₂ Si ₂
C.E. Lee, K.W. Lee, C.H. Lee, J.Y. Choi and J. Kim	709	Nuclear magnetic resonance study of distinct proton dynamics in SnCl ₄ ·5H ₂ O
V.I. Pipa, V.V. Mitin and M. Strosio	713	Acoustic phonon bottleneck in quantum dots: role of deformation variation of electron effective mass
J. Gilewicz-Wolter and M. Wolter	719	Tracer diffusion of iron in α -Mn _{1±y} S polycrystals
J.C. Barbosa, G.-Q. Hai and E. Marega Jr.	723	Quantum interference effects on the conductance of a finite antidot array in a quantum wire
Y. Miyamoto	727	Anti-bonding driving caused by electron emission: halogen desorption from Si surfaces
A.A. Lipovskii, V.D. Petrikov, V.G. Melehin, D.K. Tagantsev and B.V. Tatarintsev	733	Formation of photonic structures in glasses through phase separation
A.V. Nikolaev and K.H. Michel	739	Electronic structure and electric quadrupoles of a polymerized chain in solid AC ₆₀
	I	Volume 117 Index
	XI	Author Index
	XVII	Instructions to Authors
	XIX	Keywords



